Reliability-Throughput: Optimisation For Adaptive Forward Errorcorrection Systems

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Summary

Adaptive error control systems are very efficient for digital transmission over time-varying channels. An adaptive forward error correction system based on code selection is considered. An estimation of the channel quality is utilised by the transmitter to adaptively encode the information bits to be sent over the channel. The proper code is selected to optimise the system performance in terms of the two most important evaluation measures: throughput and reliability. The optimisation technique is applied to the case of an adaptive system using BCH codes over Rayleigh fading channels. The achievement of the adaptive system over the non-adaptive system is studied in detail